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EXAMINER

KIM, CHONG R

| ART UNIT | PAPER NUMBER |
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| 2623 | 7 |

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|---------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/765,621 | TAKEO, HIDEYA |
| | Examiner | Art Unit |
| | Charles Kim | 2623 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 May 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3, 7, 11-13, 17 and 21-30 is/are rejected.
- 7) Claim(s) 4-6, 8-10, 14-16 and 18-20 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 22 January 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Response to Amendment and Arguments

1. Applicant's amendment filed on May 24, 2004 has been entered and made of record.
2. In view of applicant's amendment, the 112 second paragraph rejections are withdrawn.
3. Applicant's arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicants argue (page 16) that their claims 1 and 2 are different and non-obvious in scope in comparison with claims 1 and 2 of Hara because the claims of Hara do not "decrease the frequency components corresponding to at least a frequency of the periodic pattern in only the vicinity of an array direction of the period pattern". The Examiner disagrees. Hara's claim 1 recites that the frequency components of the image signal which correspond to the periodic structure pattern are reduced. Therefore, in the process of reducing the image signals that correspond to the periodic structure pattern, the Examiner notes that the image signals which are in only the vicinity of an array direction of the periodic pattern are reduced; since the image signals of the periodic pattern (that are reduced) are inherently in the array direction of the periodic pattern. Accordingly, the double patenting rejection appears to still be proper.

Applicants further argue (page 17) that their claimed invention (claim 1) differs from the prior art because "the edge detection in Yazici cannot be limited to only a direction of a grid array and still preserve medically significant information...it is clear in Yazici that in isolating the periodic pattern, the grid pattern frequency is not the only frequency range subject to suppression." The Examiner disagrees. Yazici discloses that only the grid pattern frequency

(380) of the transformed image is subject to suppression (see figures 7 and 8). Accordingly, the Examiner notes that the transformed image signals in only the vicinity of an array direction of the periodic pattern would be reduced. Therefore, Yazici appears to still be applicable to claim 1.

Applicants further argue (page 18) that their claimed invention (claims 1 and 2) differs from the prior art because “Hara clearly contemplates combinations of high and low pass filtering and transforms (Fig. 2, element a-d) in two dimensions. However, referring to the original image signal 2 of Hara, to the extent any grid lines are shown, they occur in only one dimension. Accordingly, the filtering is not only in a grid array direction as claimed by claims 1 and 2”. The Examiner disagrees. Hara explains that the periodic structure in the image can comprise “a stationary grid between an object and a recording medium, a photograph taken via wire netting, and a photograph of an object having a stripe pattern” (col. 2, lines 58-63). In figure 2, the periodic pattern in the original image signal is obviously a stripe pattern. In that case, the examiner agrees with the applicant that the filtering is not only in the grid direction. However, Hara explains that the stationary grids are ordinarily utilized in the imaging process (col. 7, lines 5-7), wherein the station grids occur in two dimensions. The Examiner notes that since the filtering of Hara is also done in two dimensions, the transformed image signals in only the vicinity of an array direction of the periodic pattern would be reduced. Therefore, Hara appears to still be applicable to claims 1 and 2.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1 and 2 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,173,086. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 2 of the instant application cover equivalent subject matter and is merely a broader recitation of claim 1 in the patent.

Claim 1 of the instant application recites "transforming said original image signal, represented in a real space domain, into a plurality of transformed image signals which can be handled in a frequency domain" in lines 5-7, which corresponds to "performing a wavelet transform on an image signal" in line of claim 1 in the patent. Note that the wavelet transform results in a plurality of image signals which can be handled in the frequency domain.

Claim 1 of the instant application further recites "reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency component corresponding to at least a frequency of said periodic pattern in only the vicinity of an array direction of said periodic pattern" in lines 8-12, which corresponds to "wherein said wavelet transform is performed using at least one low pass filter which decreases

the frequency components of said image signal which correspond to said periodical structure patterns" in lines 10-14 of claim 1 in the patent. Note that in claim 1 of the patent, the "frequency components" constitute the periodical structure patterns, and therefore are in a vicinity of an array direction of the periodic pattern.

Claim 2 of the instant application recites "transforming said original image signal, represented in a real space domain, into a plurality of transformed image signals which can be handled in a frequency domain" in lines 5-7, which corresponds to "performing a wavelet transform on an image signal" in line 3 of claim 1 in the patent. Note that the wavelet transform results in a plurality of image signals which can be handled in the frequency domain.

Claim 2 of the instant application further recites "reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency component corresponding to at least a grid array frequency of said stationary grid in only the vicinity of a grid array direction of said stationary grid" in lines 8-12, which corresponds to "wherein said wavelet transform is performed using at least one low pass filter which decreases the frequency components of said image signal which correspond to said periodical structure patterns" in lines 10-14 of claim 1 in the patent. Note that in claim 1 of the patent, the "frequency components" constitute the stationary grid patterns, and therefore are in a vicinity of a grid array direction of the stationary grid.

Claim Objections

6. Claim 23 is objected to because there appears to be a typographical error in the phrase "scanning dire" in line 4. It appears that the applicant intended the phrase to read "scanning direction". A similar objection is applicable to claim 26. Appropriate correction is required.
7. Claims 24-26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 24-26 appear to recite the same features as claims 21-23 respectively.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 7, 17, 21, 24, 27-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Referring to claims 7 and 17, the phrase "and then performs inverse wavelet transformation, with respect to a signal of said transformed image signals which contains a

spatial frequency component corresponding to a grid array frequency of each possible stationary grid that may be used" in lines 3-6 is not supported by the applicant's specification. More specifically, the Examiner was unable to find an instance in the applicant's specification that describes the steps of transforming an image signal containing **a stationary grid**, wherein the image signal comprises a frequency component corresponding to the grid array frequency of **the stationary grid**, and then performing an inverse wavelet transform with respect to a signal of the transformed image signals having a spatial frequency component corresponding to a grid array frequency of **each possible stationary grid that may be used**. The closest instance to this feature appears to be in lines 9-26 on page 14 of the applicant's specification. However, the cited portions of the applicant's specification indicates that the transforming step is performed for **each stationary grid that may be used** prior to performing the inverse wavelet transformation to **each stationary grid that may be used**. The Examiner notes that neither of claims 2, 3, 7 recite the step of transforming an image signal for each stationary grid that may be used. For example, claim 2 recites that **a stationary grid** is contained in the image signal (line 2), and the frequency component corresponding to the grid frequency of **the stationary grid that is actually used** is reduced (lines 6-8). In this case, it appears that the inverse wavelet transform is performed with respect to a signal of the transformed image signals which contains a frequency component corresponding to the grid array frequency of the stationary grid that is used, as disclosed in lines 9-20 on page 14 of the applicant's specification. A similar rejection is applicable to claims 27-28.

Referring to claim 21, the phrase "reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency

component corresponding to at least a grid array frequency of said stationary grid having a low range end and a high range end in only the vicinity of a grid array direction of said stationary grid, wherein frequency components greater than the high end range are not suppressed and lower than the low end range are not suppressed by filtering" in lines 6-11 is not supported by the applicant's specification. The Examiner was unable to find an instance in the applicant's specification that describes these features. Note that for examination purposes, the phrase "wherein frequency components greater than the high end range are not suppressed and lower than the low end range are not suppressed by filtering" in lines 10-11 will not be considered.

9. Claims 7, 17, 21, 24, 27-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Referring to claims 7 and 17, the phrase "and then performs inverse wavelet transformation, with respect to a signal of said transformed image signals which contains a spatial frequency component corresponding to a grid array frequency of each possible stationary grid that may be used" in lines 3-6 is not supported by the applicant's specification. More specifically, the applicant's specification is non-enabling in regards to how the inverse wavelet transformation can be performed with respect to the transformed image signals that contain a frequency component corresponding to a grid array frequency of each possible stationary grid that may be used, when the transformed image signal contains only a single stationary grid (the stationary grid that is used). A similar rejection is applicable to claims 27-28.

Referring to claim 21, the phrase “reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency component corresponding to at least a grid array frequency of said stationary grid having a low range end and a high range end in only the vicinity of a grid array direction of said stationary grid, wherein frequency components greater than the high end range are not suppressed and lower than the low end range are not suppressed by filtering” in lines 6-11 is not supported by the applicant’s specification. More specifically, the applicant’s specification is non-enabling in regards to how the frequency components lower than the low end range are not suppressed by the filtering. In view of the applicant’s specification (page 36), it appears that the frequency components corresponding to the grid are located in the image signal on the lowest frequency side. Therefore, it is unclear how the frequency component corresponding to the grid is reduced while the frequency components lower than the low end range are not suppressed by filtering.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 7, 17, 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 7, the phrase “a signal of said transformed image signals which contains a spatial frequency component corresponding to a grid array frequency of each possible stationary grid that may be used” lacks antecedent basis. Note that the transformed image

signals contain a spatial frequency component corresponding to a grid array frequency of a single stationary grid (the one that is used). There appears to be no antecedent support for the transformed image signals which contains a spatial frequency component corresponding to a grid array frequency of each possible stationary grid that may be used, as claimed. A similar rejection is applicable to claim 17.

Referring to claim 24, the phrase “The apparatus of claim 21” in line 1 renders the claim indefinite because claim 21 is a method claim.

Referring to claim 25, the phrase “The apparatus of claim of Claim 22 wherein a periodic-pattern suppression method as set forth in claim 2” in lines 1-2 renders the claim indefinite because it is unclear what is being claimed. It is unclear whether claim 25 is a method claim or an apparatus claim.

Referring to claim 26, the phrase “The apparatus of claim of Claim 23 wherein the periodic-pattern suppression method as set forth in claim 2” in lines 1-2 renders the claim indefinite because it is unclear what is being claimed. It is unclear whether claim 26 is a method claim or an apparatus claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 2, 11, 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yazici et al., U.S. Patent No. 6,333,990 ("Yazici").

Referring to claim 1, Yazici discloses a periodic-pattern suppression method of reducing a spatial frequency component which forms a periodic pattern contained in an original image signal, the method comprising the steps of:

a. transforming said original image signal, represented in a real space domain, into a plurality of transformed image signals which can be handled in a frequency domain (col. 3, lines 50-54), and

b. reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency component corresponding to at least a frequency of said periodic pattern in only the vicinity of an array direction of said periodic pattern [col. 3, line 62-col. 4, line 2. Note that the reduced "grid line spectral component" (380) is in the vicinity of an array direction of the periodic pattern, since the grid line spectral component constitutes the periodic pattern].

Referring to claim 2, Yazici discloses a periodic-pattern suppression method of reducing a spatial frequency component resulting from a stationary grid, contained in an original image signal, the method comprising the steps of:

a. transforming said original image signal, represented in a real space domain, into a plurality of transformed image signals which can be handled in a frequency domain (col. 3, lines 50-54), and

b. reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency component corresponding to at least a

grid array frequency of said stationary grid, which is actually used, in only the vicinity of a grid array direction of the stationary grid [col. 3, line 62-col. 4, line 2. Note that the reduced "grid line spectral component" (380) is in the vicinity of the grid array direction of the stationary grid, since the grid line spectral component constitutes the stationary grid].

Referring to claim 11, see the rejection of at least claim 1 above.

Referring to claim 12, see the rejection of at least claim 2 above.

12. Claims 1, 2, 11, 12, 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Hara, U.S. Patent No. 6,173,086 ("Hara").

Referring to claim 1, Hara discloses a periodic-pattern suppression method of reducing a spatial frequency component which forms a periodic pattern contained in an original image signal, the method comprising the steps of:

a. transforming said original image signal, represented in a real space domain, into a plurality of transformed image signals which can be handled in a frequency domain (col. 4, lines 50-60), and

b. reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency component corresponding to at least a frequency of said periodic pattern in only the vicinity of an array direction of said periodic pattern [col. 6, lines 54-65. Note that the reduced "frequency components" in line 63 correspond to periodic structure (pattern), and therefore is in the vicinity of an array direction of the periodic pattern].

Referring to claim 2, Hara discloses a periodic-pattern suppression method of reducing a spatial frequency component resulting from a stationary grid, contained in an original image signal, the method comprising the steps of:

- a. transforming said original image signal, represented in a real space domain, into a plurality of transformed image signals which can be handled in a frequency domain (col. 4, lines 50-60), and
- b. reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency component corresponding to at least a grid array frequency of said stationary grid, which is actually used, in only the vicinity of a grid array direction of the stationary grid [col. 6, lines 54-65. Note that the reduced "frequency components" in line 63 correspond to periodic structure (stationary grid), and therefore is in the vicinity of the grid array direction of the stationary grid].

Referring to claim 11, see the rejection of at least claim 1 above.

Referring to claim 12, see the rejection of at least claim 2 above.

Referring to claim 21 (in view of the 112 first paragraph rejection above), Hara discloses a periodic-pattern suppression method of reducing a spatial frequency component resulting from a stationary grid, contained in an original image signal photographed using the stationary grid, the method comprising the steps of:

- a. transforming said original image signal, represented in a real space domain, into a plurality of transformed image signals which can be handled in a frequency domain (col. 4, lines 50-60), and

b. reducing a transformed image signal of said transformed image signals which has a desired frequency range containing a spatial frequency component corresponding to at least a grid array frequency of said stationary grid having a low range end and a high range end in only the vicinity of a grid array direction of said stationary grid (col. 6, lines 54-65 and col. 7, lines 1-15).

Referring to claim 22, Hara further discloses that the stationary grid is a vertical grid (col. 2, lines 58-63 and figure 2) and the transformed image signals comprise frequency components of a two-dimensional wavelet transformation, the transformed image signals being subjected to a one dimensional transformation in the vertical scanning direction (col. 5, lines 49-65).

Referring to claim 23, Hara further discloses that the stationary grid is a horizontal grid (col. 2, lines 58-63) and the transformed image signals comprise frequency components of a two-dimensional wavelet transform, the transformed image signals being subjected to one dimensional wavelet transformation in the horizontal scanning direction (col. 5, lines 49-65).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara, U.S. Patent No. 6,173,086 ("Hara").

Referring to claim 3, Hara further discloses that the transforming step obtains the plurality of transformed image signals by applying two-dimensional wavelet transformation to the original image signal by the use of a low-pass filter which splits a band so that its response at a frequency greater than the spatial frequency of the stationary grid becomes approximately zero (col. 6, line 66-col. 7, line 15 and figure 3), and the reducing step further applies a process of reducing a component less than a predetermined frequency [col. 6, lines 22-27. Note that the high-pass filter (11) reduces a component less than a predetermined frequency].

Hara fails to explicitly disclose the step of performing an inverse wavelet transformation with respect to a signal of the transformed image signals which contains a spatial frequency component corresponding to the grid array frequency. However, the Examiner notes that performing an inverse wavelet transformation to a signal that is in the wavelet domain was exceedingly well known in the art. For example, in conventional wavelet image processing, it was well known to perform an inverse wavelet transformation, in order to obtain an image in its original form (background of Hara, col. 1, lines 19-45). Therefore, it would have been obvious to modify Hara's teaching so that it includes the step of performing an inverse wavelet transformation, in order to obtain the image in its original form for proper display.

Referring to claim 13, see the rejection of at least claim 3 above.

14. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hara, U.S. Patent No. 6,173,086 ("Hara") and Barski et al., U.S. Patent No. 6,269,176 ("Barski").

Referring to claim 29, Hara does not explicitly disclose that the reducing step judges the grid array direction of the stationary grid, and applies the process of reducing a component less than the predetermined frequency based on the result of the judgment.

Barski discloses a method for reducing a grid structure in an image based on a judged grid array direction of a stationary grid (col. 8, line 30-col. 9, line 10).

Hara and Barski are combinable because they are both concerned with reducing a periodic pattern in an image. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the reducing step of Hara so that it is based on the judged grid array direction, as taught by Barski. The suggestion/motivation for doing so would have been to provide faster processing and the preservation of detail in the image (Barski, col. 2, lines 50-57). Therefore, it would have been obvious to combine Hara with Barski to obtain the invention as specified in claim 29.

Referring to claim 30, see the rejection of at least claim 29 above.

Allowable Subject Matter

15. Claims 4-6, 8-10, 14-16, 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 703-306-4038. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ck
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August 18, 2004



AMELIAM. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600